PREFERRED ALTERNATIVE

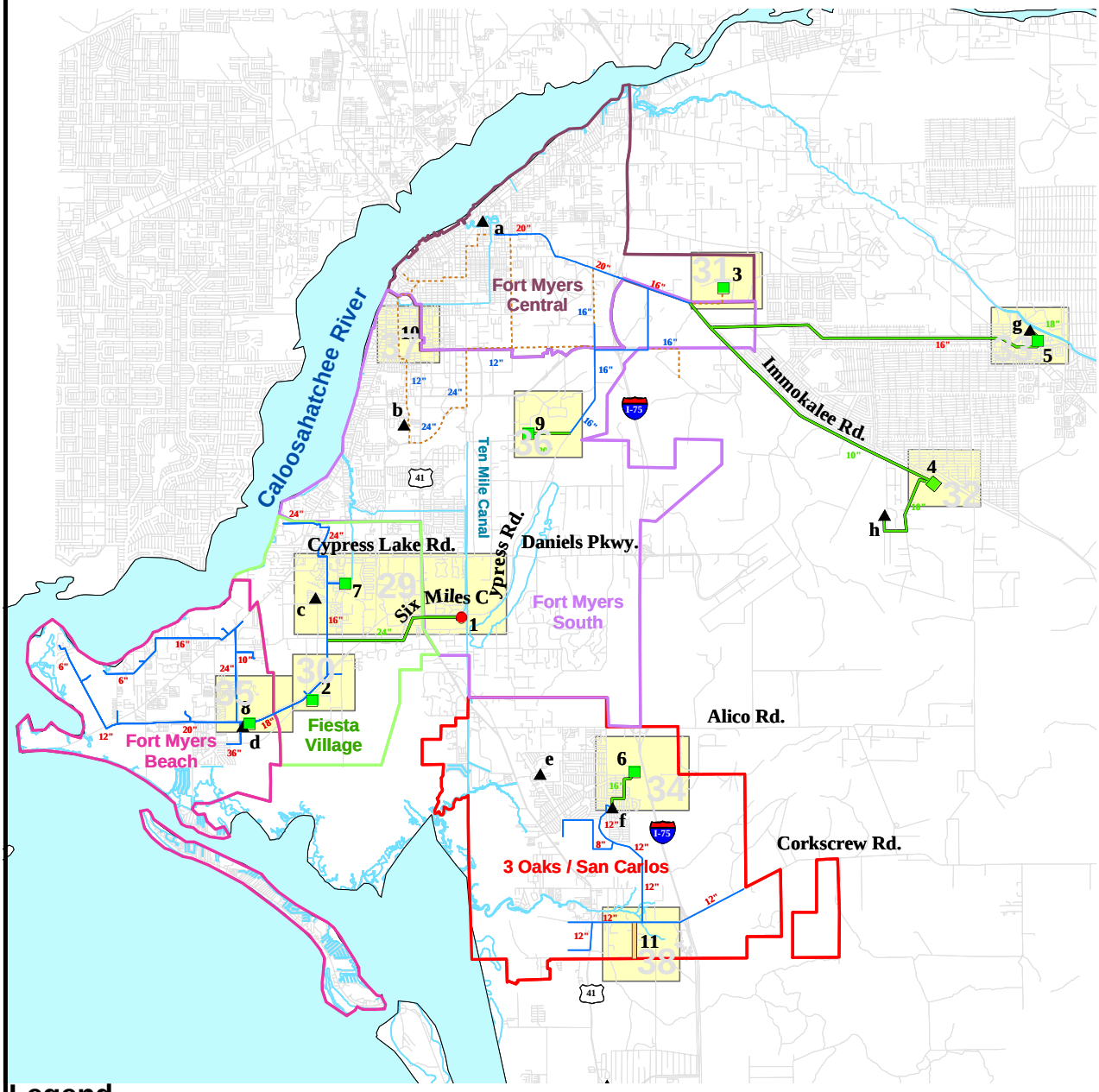
As presented in Table 20 presents the preferred alternative and describes the projects that make up the alternative. The projects include surface water ASR, reclaimed water ASR, and interconnects. Table 30 also presents the supply benefit that each project is estimated to provide.

Table 30
Sub-regional Projects Summary

Project No.	Projects	Benefit or Recovery Capacity (MGD)
1	a. Ten Mile Canal-Pump Station	12
	b. Ten Mile Canal-Wells	
	c. Ten Mile Canal-Transmission Lines	
2	a. Fiesta Village/Fort Myers Beach-Pump Station	8.1
	b. Fiesta Village/Fort Myers Beach-Well	
	c. Fiesta Village/Fort Myers Beach -Transmission Lines	
3	a. Fort Myers Central Pump Station	8.8
	b. Fort Myers Central-Well	
	c. Fort Myers Central- Transmission Lines	
4	a. Gateway-Pump Station	1.0
	b. Gateway-Well	
	c. Gateway - Transmission Lines	
5	a. Lehigh Acres-Pump Station	4.9
	b. Lehigh Acres-Well	
	c. Lehigh Acres-Transmission Lines	
6	a. Three Oaks-Pump Station	3.3
	b. Three Oaks-Well	
	c. Three Oaks-Transmission Lines	
7	a. Fiesta Village-Pump Station	3.9
	b. Fiesta Village-Well	
	c. Fiesta Village-Transmission Lines	
8	a. Fort Myers Beach-Pump Station	4.2
	b. Fort Myers Beach-Well	
	c. Fort Myers Beach-Transmission Lines	
9	a. Fort Myers South-Pump Station	7.8
	b. Fort Myers South-Well	
	c. Fort Myers South-Transmission Lines	
10.	City of Fort Myers Reclaimed Water System Expansion	16.6
11.	Corkscrew Rd. to Williams Rd.	0.3
TOTAL		**45.9***

*Project Nos. 2, 10, and 11 include benefit from other projects.

Figure 1 presents the ASR system locations and interconnect routes**.**



Legend

- **Surface Water ASR Systems**
  1. Ten Mile Canal
- **Reclaimed Water ASR Systems**
  2. Fiesta Village/Fort Myers Beach
  3. Fort Myers Central
  4. Gateway
  5. Lehigh Acres
  6. Three Oaks
  7. Fiesta Village
  8. Fort Myers Beach
  9. Fort Myers South
  10. City of Fort Myers Reclaimed Water System Expansion
  11. Corkscrew Road to Williams Road Interconnect
- **Wastewater Treatment/ Reclamation Facilities**
  a. Fort Myers Central
  b. Fort Myers South
  c. Fiesta Village
  d. Fort Myers Beach
  e. San Carlos
  f. Three Oaks
  g. Lehigh Acres
  h. Gateway
- **Interconnect Locations**
- **Ft myers beach (LCU)**
- **Fiest Village (LCU)**
- **City of Fort Myers - South**
- **City of Fort Myers - Central**
- **3 Oaks/ San Carlos (LCU)**
- **Exist Trans. Lines**
- **Future Trans. Lines**
- **ASR Piping**
- **Major Roads**
- **Major Streams**
- **Gulf**
- **Figure No.**

N

0 1 2 Miles

Regional Irrigation Distribution System (RIDS) Feasibility Study for the Lower West Coast Region	BOYLE	South Florida Water Management District	ALTERNATIVE PROJECTS INDEX SHEET SUBREGION 3	Figure 28

PREFERRED ALTERNATIVE

In order to better allocate funds for the alternative supply projects presented in TM 2, the projects were divided into major elements. Each of the projects shown in Table 30 were evaluated to best meet the supply needs of this sub-region and to determine the feasibility of its implementation using the criteria described below:

- Capacity Benefit
- Permittability
- Proximity to Existing Infrastructure
- Unit Cost
- Participation Interest
- Funding Ability
- Consistency with Master Plan

These selection criteria are scored between 1 and 5, with the higher score resulting in a higher priority for implementation. The prioritized projects will then be used in the implementation strategy.

Capacity Benefit

This criterion evaluates the amount of supplemental water (benefit) that each project will provide to offset total potable water/groundwater use for urban irrigation. Table 30 summarizes the benefit per project. The benefit is estimated in million of gallons per day. The capacity benefit scoring was based on the range of supply provided as shown below:

- 1 MGD to 3 MGD = 1
- Greater than 3 MGD to 5 MGD = 2
- Greater than 5 MGD to 7 MGD = 3
- Greater than 7 MGD to 10 MGD = 4
- Greater than 10 MGD = 5

Permittability

All of the projects included in the recommended alternative are permittable and there are several precedents for each in the region and throughout the State. Some projects, such as interconnects are much easier to permit than others, which is reflected in the scoring.

- Interconnects, pump stations and transmission mains = 5
- Intake and ASR Well projects = 3

Proximity to Existing Infrastructure

There is an extensive network of existing infrastructure throughout the sub-region that will provide a means of transmission from the new sources of supply to the areas of need. Some projects are close to the existing transmission system, making implementation more economical. For example, a transmission system within 1,000 feet would result in a 5. Larger distances will result in lower scores.

Unit Cost

A unit cost was calculated for each of the projects, as shown in Table 31. The unit cost includes the construction of the project, engineering, pilot testing and operation and maintenance (O&M). Currently, the proposed technology for surface water ASR includes bank-filtration, pH adjustment, and chlorine/chloramines disinfection. For reclaimed water ASR projects, no additional improvements are anticipated beyond the current treatment levels.

Cost Includes:

- ASR Wells: $550,000 per well.
- Pump Station Cost was derived from Pumping Station Design, second Edition, Robert Sanks.
- Intake cost: For capacity equal to or less than 5 MGD the cost is $1 million. $100,000 per MGD is added for capacity greater than 5 MGD.
- Land Acquisition: $50,000 per well. It is assumed that the well separation will be a minimum of 500 ft. Final design will attempt to locate wells an infrastructure in existing rights-of-way or easements.
- Pipes: $4 per inch diameter per linear foot.
- Engineering, administration and legal = 20% of capital cost.
- O & M =$ 0.14 /1000 gals X 10 months X 30 days/month
- Contingency of 25%

Shown below is the scoring range of the unit cost based on price ranges for cost of the project per 1000 gallons of benefit (capacity). The final scoring is presented in Table 31.

- Less than $1.00 = 5
- $1.01 to $1.25 = 4
- $1.26 to $1.50 = 3
- $1.51 to $1.75 = 2
- Greater than $1.75 = 1

Table 31
Project Unit Cost

Project No.	Projects	Cost per 1,000 gallons of benefit ($)
1	a. Ten Mile Canal-Pump Station	1.33
	b. Ten Mile Canal-Wells	
	c. Ten Mile Canal-Transmission Lines	
2	a. Fiesta Village/Fort Myers Beach-Pump Station	1.17
	b. Fiesta Village/Fort Myers Beach-Well	
	c. Fiesta Village/Fort Myers Beach -Transmission Lines	
3	a. Fort Myers Central Pump Station	1.20.
	b. Fort Myers Central-Well	
	c. Fort Myers Central- Transmission Lines	
4	a. Gateway-Pump Station	3.60
	b. Gateway-Well	
	c. Gateway - Transmission Lines	
5	a. Lehigh Acres-Pump Station	1.67
	b. Lehigh Acres-Well	
	c. Lehigh Acres-Transmission Lines	
6	a. Three Oaks-Pump Station	1.45
	b. Three Oaks-Well	
	c. Three Oaks-Transmission Lines	
7	a. Fiesta Village-Pump Station	1.35
	b. Fiesta Village-Well	
	c. Fiesta Village-Transmission Lines	
8	a. Fort Myers Beach-Pump Station	1.30
	b. Fort Myers Beach-Well	
	c. Fort Myers Beach-Transmission Lines	
9	a. Fort Myers South-Pump Station	1.22
	b. Fort Myers South-Well	
	c. Fort Myers South-Transmission Lines	
10.	a. City of Fort Myers Reclaimed Transmission	0.78
11.	a. Corkscrew Rd. to Williams Rd.	0.76
Average		**1.19**

Participation Interest

Some of the stakeholders in the RIDS have expressed more interest in individual projects and participated more extensively than others. As this is primarily a voluntary program for the stakeholders, their anticipated participation overall and regarding individual projects, is scored accordingly.

Funding Ability

The projects included in the preferred alternative are fundable through SRF loans and should be eligible for a number of state and federal grants. Funding has been directed towards projects with regional benefits and those that offset potable use and groundwater pumpage, i.e., alternative sources of supply. The availability of state and federal grant programs has been based on legislative and congressional approval; therefore, a funding strategy based on the latest programs will be provided for the preferred alternative in the final report.

Consistency with Master Plan

The stakeholders have developed or are developing master plans to improve and expand their individual system. The development of the RIDS has integrated the plans of the stakeholders. Therefore, this criterion evaluates how each of the projects could be integrated into the planned improvements.

The summary of the criteria scoring is shown in Table 32.

Table 32
Project and Criteria Evaluation

Supply Projects	Capacity Benefit	Permit-Ability	Proximity To Existing Infrastructure	Unit Cost	Participation Interest	Funding Ability	Consistency With Master Plans	Total Points	Priority Ranking
1a. Ten Mile Canal-Pump Station	5	5	2	3	5	5	2	27	5
1b. Ten Mile Canal-Wells	5	3	2	3	5	5	2	25	5
1c. Ten Mile Canal-Transmission Lines	5	5	2	3	5	5	2	27	5
2a. Fiesta Village/Fort Myers Beach-Pump Station	4	5	5	5	5	5	5	34	1
2b. Fiesta Village/Fort Myers Beach-Wells	4	3	5	5	5	5	5	32	1
2c. Fiesta Village/Fort Myers Beach -Transmission Lines	4	5	5	5	5	5	5	34	1
3a. Fort Myers Central Pump Station	4	5	4	5	5	5	5	33	3
3b. Fort Myers Central-Wells	4	3	4	5	5	5	5	31	3
3c. Fort Myers Central- Transmission Lines	4	5	4	5	5	5	5	33	3
4a. Gateway-Wells	1	5	1	1	5	5	3	21	10
4b. Gateway-Pump Station	1	3	1	1	5	5	3	19	10
4c. Gateway - Transmission Lines	1	5	1	1	5	5	3	21	10
5a. Lehigh Acres-Pump Station	2	5	1	2	2	5	1	18	11
5b. Lehigh Acres-Wells	2	3	1	2	2	5	1	16	11
5c. Lehigh Acres-Transmission Lines	2	5	1	2	2	5	1	18	11
6a. Three Oaks-Pump Station	2	5	3	3	4	5	4	26	6
6b. Three Oaks-Wells	2	3	3	3	4	5	4	24	6
6c. Three Oaks-Transmission Lines	2	5	3	3	4	5	4	26	6
7a. Fiesta Village-Pump Station	2	5	4	3	2	5	2	23	9
7b. Fiesta Village-Wells	2	3	4	3	2	5	2	21	9
7c. Fiesta Village-Transmission Lines	2	5	4	3	2	5	2	23	9
8a. Fort Myers Beach-Pump Station	2	5	5	4	2	5	2	25	8
8b. Fort Myers Beach-Wells	2	3	5	4	2	5	2	23	8
8c. Fort Myers Beach-Transmission Lines	2	5	5	4	2	5	2	25	8
9a. Fort Myers South-Pump Station	4	5	3	4	5	5	3	29	4
9b. Fort Myers South-Wells	4	3	3	4	5	5	3	27	4
9c. Fort Myers South-Transmission Lines	4	5	3	4	5	5	3	29	4
10. City of Fort Myers Reclaimed Water Syst. Expansion	5	5	4	5	5	5	5	34	2
11. Corkscrew Rd. to Williams Rd.	1	5	4	5	5	5	5	30	7